

## REMARKS

In the office action the Examiner rejected claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. in view of Dickhart III et al. The Examiner referred to the previous office action. To support the rejection the Examiner stated,

"Matthews et al. show a commonplace range spring 20, see figure 1.

The claimed invention differs from Matthews et al. only in the inclusion of damping means on the spring.

Dickhart et al. show a brake spring having a damper 32, 36.

It would have been obvious to one of ordinary skill in the art to have utilized a damper on the spring of Matthews et al. in view of the teaching of Dickhart et al so as to reduce vibrations.

Re. claim 2, the damper is a predetermined size.

Re claims 3-5, the type of material would have been deemed a mere matter of choice dependent upon the desired damping rate.

Re claim 6, Matthews et al show a diaphragm (see fig. 1).

Re claim 7, Dickhart et al show dampers on both ends of the springs.

Re claims 8-14, note the above discussion.

Re claims 15-20, note the plurality of elements in the embodiment shown in figure 8 of Dickhart et al. Note that at least 3 elements are shown."

Applicant has amended claim 1 to include the limitation described in claim 6 wherein the range spring of the locomotive brake valve is disposed intermediate a pressure regulating means and a diaphragm. Claim 1 was further amended to include a more thorough description of the damping means. As amended, claim 1 provides that the device for providing damping capabilities includes a donut shaped element and a plurality of legs that are attached to the donut shaped element. The legs being disposed at outer periphery of the donut shaped element and are attached to the donut shaped element at an angle greater than 90°. This description of the device is clearly evident in Figure 5. Applicant has also amended the specification to include the description of the device as seen in Figure 5.

Applicant must disagree with the Examiner's interpretation of Dickhart et al. wherein the Examiner states that Dickhart III et al. shows a brake spring having a damper 32, 36. Dickhart III et al. teaches, "In accordance with the present invention, a mechanical coil spring is disposed between a car body and a truck. Damping means are provided to damp vibrations, surges and noise developed in the spring and prevent them from being transmitted to the car body. The damping means physically contact coils at different areas of the spring." (column 1, lines 46-52). (Underlining is for emphasis.)

There is no teaching in Dickhart III et al. of a brake spring having a damper. The springs of Dickhart III et al. are all coil springs relating to car bodies and their related trucks.

These coil springs are significantly different from the range spring that is disposed in a locomotive brake valve assembly.

Even though the coil springs of Dickhart III et al. are significantly different from the range spring of a locomotive brake valve as defined in the present invention, the present invention according to claim 1, as amended, provides that the device, for providing damping capabilities to a range spring, includes a donut shaped element and a plurality of legs that are attached to the donut shaped element. The legs being disposed at outer periphery of the donut shaped element and are attached to the donut shaped element at an angle greater than 90°. Clearly this device is significantly different from the damping devices as taught by Dickhart III et al.

Since Matthews et al. does not teach a damping device and since the damping device of the present invention is clearly different from the devices of Dickhart III et al., Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 1 and dependent claims 2-5 and 7 under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. in view of Dickhart III et al.

Applicant must also disagree with the Examiner's interpretation of Matthews et al. in view of Dickhart III et al. with respect to the Examiner's rejection of claim 8 of the instant invention. Claim 8 describes "at least one range spring with enhanced damping capabilities, the improvement comprising a device for providing additional damping capabilities whereby said

device will minimize spring oscillation during operation of said locomotive brake valve."

There is no teaching in Matthews et al of a spring having enhanced damping capabilities. In fact, there is no mention of damping at all in the teaching of Matthews et al. Dickhart III et al. provides damping elements about the coils of mechanical coil springs between a railway car body and a truck. However, there is no teaching in Dickhart III et al. of the spring itself being provided with enhanced damping capabilities.

Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 8 and dependent claims 9-14 under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. in view of Dickhart III et al.

The Examiner rejected claims 15-20 by stating, "Re claims 15-20, note the plurality of elements in the embodiment shown in figure 8 of Dickhart et al. Note that at least 3 elements are shown."

Applicant has amended claim 15 to include a more thorough description of the damping means similar to that described supra with respect to claim 1. As amended, claim 15 provides that the device for providing damping capabilities includes a donut shaped element and a plurality of legs that are attached to the donut shaped element. The legs being disposed at outer periphery of the donut shaped element and are attached to the donut shaped element at an angle greater than 90°.

With respect to the Examiner's rejection, the present invention is significantly different from the device as taught by Dickhart III et al. The device of Dickhart III et al. does not have a central opening nor are the prong elements 76 (legs) disposed at an outer periphery. As taught by Dickhart III et al., "Bottom cap 72 comprises a base 74 with prong elements 76 extending therefrom. The prong elements 76 include interconnecting convoluted sections 78.

Caps 70 and 72 are inserted in the space between the springs 62 and 64. When the cap elements are inserted, the projecting portions 76 and the convoluted portions 78 engage a number of the upper and lower coils of the springs 62 and 64." (Column 3, lines 22-30).

The damping device as taught by Dickhart III et al. is used for a double spring arrangement in which the projecting portions are disposed between the springs. The present invention provides that the donut shaped element has a hole in the center of the element, making it donut shaped, which is clearly different from the "cap" of Dickhart III et al. Further, the present invention does not provide for any convoluted portions between the projections as is taught by Dickhart III et al. The legs of the present invention are also attached to the donut shaped element at an angle greater than 90°. The projections of Dickhart III et al. appear to be at right angles to the cap.

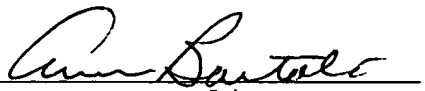
Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of claims 15-20 under 35 U.S.C. 103(a) as

being unpatentable over Matthews et al. in view of Dickhart III et al.

In view of the discussion supra, it is believed that the invention as described in claims 1-5 and 7-20 is patentable and that this application is now in condition for allowance and such allowance by the Examiner is respectfully requested.

In the event the Examiner has further difficulties with the examination and/or allowance of the application, the Examiner is invited to contact the undersigned agent for applicant by telephone at (412) 380-0725, if necessary, to resolve any remaining questions or issues by interview and/or Examiner's Amendment as to any matter.

Respectfully submitted,  
James Ray and Associates

By   
Amos Bartoli  
Registration No. 42,299  
Agent for Applicant

JAMES RAY & ASSOCIATES  
2640 Pitcairn Road  
Monroeville, PA 15146  
Tel. (412) 380-0725  
Fax (412) 380-0748

## Appendix A

In the specification:

On page 6, line 18, please amend the paragraph as indicated:

Now refer more particularly to Figure 5 of the drawings. Illustrated therein is a device, generally designated 34, --which is comparable to device 18 in Figures 1-4,-- for providing damping capabilities for a range spring (not shown) in a locomotive brake valve (not shown). The device 34 comprises a "first" --donut shaped-- element 36 having a predetermined size, shape, and material. "Preferably the shape of the first element is annular." --Such donut shaped element 36 has an opening to permit engagement with such exhaust valve assembly 12 as seen in Figures 1-4. The device 34 also comprises a plurality of "members" --legs-- 38 having a predetermined size, shape, and material. The "members" --legs-- 38 are attached in a predetermined position to the "first" --donut shaped-- element 36 for engaging with a range spring (not shown) to minimize spring oscillation when the device 34 is disposed about the spring. Preferably, the plurality of the "members" --legs-- 38 is three, and the "members" --legs-- 38 are integrally attached at a predetermined angle to the "first" --donut shaped-- element 36. The angle of the "members" --legs-- 38 is determined by the amount of range spring dampening required. --As is clearly seen in Figure 5 the angle of attachment may vary somewhat because of the amount of dampening needed but the angle will always be greater than 90°, so that the legs 38 engage the inner surface of

spring housing 14.-- Preferably, the material of the dampening device is steel.



In the claims:

Please cancel claim 6.

Please amend the following claims as indicated.

1. In combination with a railway locomotive brake valve having at least one exhaust valve assembly, at least one spring housing, and at least one range spring disposed intermediate a pressure regulating means and a diaphragm, the improvement comprising a device for providing damping capabilities, whereby said device will minimize spring oscillation during operation of said locomotive brake valve[.], said device including:

(a) a donut shaped element having a predetermined size and shape and formed from a predetermined material; and

(b) a plurality of legs having a predetermined size, shape and material attached at a predetermined angle to said donut shaped element adjacent an outer periphery thereof for engagement with said range spring to minimize oscillation when said device is disposed about said range spring, said predetermined angle between said plurality of legs and said donut shaped like element being greater than 90°.

15. A dampening device for a range spring in a railway locomotive brake valve, said device comprising:

(a) a [first] donut shaped element having a predetermined size[,], and shape[,], and formed from a predetermined material; and

(b) a plurality of [members] legs having a predetermined size, shape and material attached at [in] a predetermined [position] angle to said [first] donut shaped element adjacent an outer periphery thereof for [engaging] engagement with such range spring to minimize oscillation when said device is disposed about such range spring, said predetermined angle between said plurality of legs and said donut shaped element being greater than 90°.